

(19) World Intellectual Property Organization
International Bureau



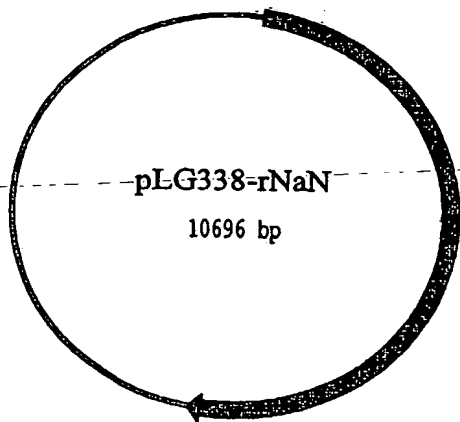
(43) International Publication Date
2 October 2003 (02.10.2003)

PCT

(10) International Publication Number
WO 03/080570 A2

- (51) International Patent Classification⁷: **C07D**
- (21) International Application Number: PCT/US03/08611
- (22) International Filing Date: 20 March 2003 (20.03.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/365,550 20 March 2002 (20.03.2002) US
- (71) Applicant (for all designated States except US): **TRANS-MOLECULAR, INC.** [US/US]; 3800 Colonnade Parkway, Suite 240, Birmingham, AL 35243 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **GONDA, Matthew, A.** [US/US]; 3800 Colonnade Parkway, Suite 240, Birmingham, AL 35243 (US). **GREENWOOD, John, D.** [US/US]; 3800 Colonnade Parkway, Suite 240, Birmingham, AL 35243 (US).
- (74) Agents: **SMYTH, Robert, J.** et al.; Morgan, Lewis & Bockius LLP, 1111 Pennsylvania Avenue, NW, Washington, DC 20004 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RECOMBINANT EXPRESSION VECTORS FOR FUNCTIONAL $Na_v1.9$ SODIUM CHANNELS



(57) Abstract: The present invention is drawn to the stable cloning and expression of $Na_v1.9$ sodium channel at the mRNA and protein levels, production of sodium channel currents characteristic of native currents in dorsal root ganglion neurons and to cell lines transiently or stably expressing recombinant $Na_v1.9$ sodium channel.

WO 03/080570 A2